

Serial No. 09/895234

Amendment dated April 22, 2004

Response to Office Action dated January 22, 2004

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Amendments to the Specification

Please amend the paragraph beginning on page 1, line 28 as follows:

In addition, the requested data is rarely stored {on} in contiguous physical positions on the disk or disks. Accessing data from a disk in physically discontinuous locations requires physical movement of the disk head, which is slow, consumes a lot of energy and dissipates a lot of heat, all of which are undesirable. The energy consumed and heat dissipated by the movement of disk heads is increasingly becoming a critical factor in the design of data centers.

Please amend the paragraph beginning on page 3, line 19 as follows:

Network 104 and each of the attached clients 102 and server 106 typically support the Transmission Control Protocol/Internet Protocol (TCP/IP) suite of protocols. TCP/IP provides the foundation and framework for many computer networks including the Internet. TCP/IP is extensively documented in a variety of publications including M. Murhammer et al., *TCP/IP Tutorial and Technical Overview*, available online at www.redbooks.ibm.com (#GG24-3376-05) and incorporated by reference herein. In a TCP/IP environment, each client 102 may communicate with server 106 via a dedicated TCP connection. The various TCP connections between client 102 and server 106 are indicated in FIG 1 by reference numerals 110, 112, and 114. Each TCP connection may have a characteristic data transfer rate or network transfer rate that is indicative of the rate at which data is exchanged between the corresponding client 102 and server 106. The data transfer rate of each TCP connection depends on the properties of the connection. Typically, web {server} server 106 knows or can derive the network transfer rate of each of its TCP connections based upon data transfer statistics.

Please amend the paragraph beginning on page 5, line 3 as follows:

Network interface 202 enables operating system 204 to receive packets of information from and send packets to clients 102 via network 104. Typically, {a} client requests are delivered over network 104 as one or more information packets, each packet with its own set of protocol specific packet headers. The packet headers may include information regarding the source and destination of the corresponding packet, the validity of the packet, and other implementation specific network information. In a TCP/IP network embodiment, for example, each packet includes a TCP header that is used to verify the integrity of the packet and an IP header that indicates the {packets} packet's network destination address.

Please amend the paragraph beginning on page 5, line 11 as follows:

In one embodiment, network interface 202 comprises hardware commonly referred to as a network interface card (NIC). In this embodiment, the NIC is typically responsible for capturing packets addressed to server 106, processing a low level header such as the Media Access Control (MAC) header in an Ethernet implementation, and providing the remainder of each packet to

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operating system 204. In other embodiments, the NIC may include dedicated hardware for processing additional levels of the network protocol headers.

Please amend the paragraph beginning on page 6, line 3 as follows:

In a conventional server/storage configuration, the operating system typically treats each file request as a single request to retrieve the entire file immediately. The operating system may convert the file request into a set of ~~request~~ requests for logical blocks and pass the set of logical blocks to disk scheduler, which is responsible for mapping the requested logical blocks to physical blocks on the disk. Neither the operating system nor the disk scheduler is typically configured to consider the network transfer rate of the link between the requesting client and the server when retrieving the requested data from disk. Thus, in a conventionally designed network, a client request for data is handled substantially identically whether the request is received over a slow connection or a fast connection.